IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TITLE: Apparatus For Improved Volleyball Training

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BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention generally relates to the practice of volleyball, and more particularly, to a device that provides a highly effective and efficient way for volleyball players of all skill levels to improve their offensive and defensive skills. The present device also provides for highly efficient volleyball practices by allowing several players to perform quality practice repetition at the same time; the device further allows separate groups of players to practice at different locations simultaneously.

2. Background Information

Volleyball is a widely popular sport, played and watched by millions of people the world over. In fact, the sport itself transcends different cultures, age groups, and sexes. For example, volleyball is so popular that both men and women's volleyball qualifies as an Olympic sport, drawing participation from national teams all over the world. However, this is not the end of the story. Volleyball is also played at the professional, colligate, and interscholastic level. In fact, youth of all ages and

from all over the world, play volleyball for club teams, city leagues, and in scholastic competition.

Interestingly, the success of an individual volleyball player, and likewise the team they play for, can be put in fairly simple terms. That is, the success of a volleyball team largely depends on its overall ability to "spike" and defend against, or block, the "spike." The term "spike" refers to the complicated maneuver consisting of approaching the ball, jumping, and striking the ball in a generally downward motion. This maneuver is meant to create great acceleration of the ball and render any defense futile.

Spiking the volleyball is so important that a team's offensive scheme is structured so as to score mostly by performing this complex maneuver. On the offensive side, a volleyball team is typically coordinated so as to provide its players the best and most frequent opportunities to spike the ball. A volleyball team is comprised of a group of "setters" and "spikers." Setters are largely responsible for feeding the ball to the spikers, who are aligned along the net. Not surprisingly, the defensive strategy of a volleyball team largely revolves around defending against the spike. As a result of the above, volleyball teams

dedicate a tremendous amount of time to improving their overall ability to spike and defend against the spike.

In view of above, the ability to spike and defend the spike is of the utmost importance. However, as with any learned skill, the only way to improve is to practice. Teams with the best method for practicing the art of spiking and blocking will have the greatest chance for winning. As such, the team that can provide its players with the most effective and the most numerous practice repetitions will provide the best opportunities for its players to improve.

However, perfecting the art of spiking and blocking is not straightforward. There are several components of both techniques that can only be perfected through numerous repetitions. For example, effective spiking and blocking depends on proper footwork, body position, timing, and placement along the net. As such, both techniques are best learned through the employment of an effective practice scheme that can repeatedly incorporate all of the mentioned aspects of these learned skills.

Devices for helping players improve their volleyball skills are known in the art. However, these devices are not as effective, and are largely limited in view of the present device. For example, patent number 4,881,742 (the '742

patent) teaches a stationary trainer, but this device is limited to use by only one player, and is not portable. Unlike the present device, the '742 patent does not provide a device that is conducive to simultaneous offensive and defensive practice as the ball is mounted to a "semi-rigid tether." Therefore, the '742 patent does not match the increase in the efficiency of volleyball practice offered by the present invention. Patent number 4,948,150 (the '150 patent) also teaches a device for practicing volleyball. However, unlike the present device, the device of the '150 patent is also not portable and is limited to use by only one person at a time. Therefore, neither device can come close to matching the increase in practice efficiency produced by the present device. Finally, unlike the present device, no product known in the art is conducive to allowing several players to perfect their offensive and defensive players skills at the same time.

In light of the enormous popularity of volleyball, the essential need to master the art of spiking and defending the spike to succeed at volleyball, and the shortcomings of the products known in the art, there is a tremendous need for a product that will allow volleyball players at all stages of development to improve their skills.

Particularly, a device is needed for improving spiking and blocking in a highly efficient, effective, and cost effective manner.

SUMMARY OF THE INVENTION

In view of the foregoing, it is an object of the present invention to provide a device that allows volleyball players to improve their offensive playing skills

It is another object of the present invention to provide a device that allows volleyball players to improve their defensive playing skills

It is another object of the present invention to provide a device that allows for more efficient volleyball practice sessions

It is another object of the present invention to provide a device that allows more than one group of players to practice simultaneously

It is another object of the present invention to provide a device that allows separate practice groups to practice in different practice locations simultaneously

It is another object of the present invention to provide a device that allows for fast and efficient repetition of the particular skills being taught

It is another object of the present invention to provide a device that may be used by individuals of all ages and skill levels

It is another object of the present invention to provide a device that is highly efficient yet cost effective

It is yet another object of the present invention to provide a device that allows for volleyball players to improve their physical conditioning

In satisfaction of these and related objects, the present device provides a highly efficient, highly effective, and cost effective device to help volleyball players at all skill levels improve their playing ability. Practice of the present device involves a series of volleyballs suspended in a linear fashion from a substantially horizontal support beam. This horizontal support beam is attached, at each end, to vertical support beams that are anchored by a base. Importantly, the height of the horizontal support beam, and likewise the height of the suspended volleyballs, can be adjusted according to the height and vertical ability of the active players. The volleyballs are attached to the support beam so that their motion upon impact is not hindered, yet, these balls are attached so that they return to their initial position without requiring retrieval by players or coaches. The alignment of

the volleyballs is important because it allows separate lines of players to approach each ball and execute the spike maneuver while allowing separate lines of players to defend against each corresponding player attempting to spike the ball. This greatly increases the number of quality practice repetitions performed by each player.

The base mechanism allows the device to be portable. As such, the invention may be placed at or near the volleyball net to provide the most realistic game scenario, or, may be placed away from the net where players can concentrate on the fundamentals. This feature is important because it allows practice sessions to be conducted at various locations and allows separate practice groups to focus on different aspects of the game. Because the invention places a volleyball in the optimum spiking position, it is particularly useful for allowing repeated evaluation and scrutiny of a players technique; particularly with respect to arm swing, extension, approach, jumping, proper footwork, and proper blocking techniques. Also, the present invention provides an effective aid for teaching correct body position in relation to the ball upon impact.

The present invention provides an improvement in volleyball practice efficiency. Traditional volleyball

practice, and practice with products known in the art, cannot even closely match the benefits offered by the present device. As mentioned, the present device allows lines of players to practice at one time, further, the device allows both offensive and defensive lines to practice simultaneously. As such, players perform many more repetitions than they would otherwise. Also, the arrangement of the volleyballs allows coaches to carefully scrutinize performing players techniques. That is, because coaches save time by not manipulating or shagging practice balls, they can spend more time on coaching. The mobility of the present device allows players to divide into separate groups and focus on specific techniques. For instance, separate devices of the present invention may be placed in different practice areas, so that smaller groups of players can focus on different aspects of the game.

Finally, the present invention is cost-effective. This feature provides access to players who may normally not have the means to practice. For instance, players that cannot afford to be a part of club teams may purchase this product to practice essential volleyball skills. Also, this cost-effective feature allows for easy employment of more than one device, greatly improving the efficiency in large-scale practice sessions.

The importance of the invention rests upon the fact that it is highly advantageous for a player to be able to practice under realistic, simulated conditions. In that way, the players may repeat the different techniques necessary to participate in the game and be closely evaluated by coaches during the process.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of the device of the present invention.

Figure 2 is side view of the device of the present invention.

Figure 3 is a front view of the device of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to figure 1, the device of the present invention is generally designated by the reference numeral 10. Device 10, in the preferred embodiment is constructed of a lightweight, yet stable metal, such as aluminum. However, any material of suitable strength may be used, in fact, it can be easily seen that successful embodiments of the present invention may be constructed of composite material such as polyvinyl chloride.

The topmost portion of device 10 is comprised of support beam 12. Support beam 12 is a substantially

horizontal beam that extends between vertical support beams 14 and 16. In the preferred embodiment support beam 12 is welded to vertical beams 14 and 16 so as to form a single, modular piece, attached to a base mechanism 50. Importantly, alternative embodiments allow the height of support beam 12 to be adjusted in more than one fashion. For example, support beam 12 may rest on a set of brackets extending from each vertical support beam where each bracket is placed incrementally in increasing height relative to the ground. In such case, support beam 12 may be manually placed on any pair of matching brackets so as to incrementally adjust its height.

Also, other embodiments allow height adjustment to come from changing the length of each vertical support beam. For instance, each vertical support beam may consist of an inner-piece and an outer piece whereby the inner piece slides within the outer piece so as to shorten or extend the overall length of each vertical support beam. This embodiment allows the user of the device to manually slide the inner piece along the outer piece and then secure each piece in a fixed position relative to one another. In such case, the inner piece may be held in a fixed position relative to the outer piece by some securing means such as a

clamp, or a pin, that is secured to and extends between both sides of each inner and outer piece.

Finally, support beam 12, in another embodiment, rests atop vertical beams 14 and 16 and may be slidably adjusted between the two. That is, the distance between vertical support beams 14 and 16 may be adjusted according to available space constraints of the practice area and the number of desired players to practice at a time.

Support beam 12 serves to secure a plurality of volleyball stabilization mechanisms. As will become apparent from the specification and drawings to follow, such stabilization mechanisms are ultimately responsible for restraining the suspended volleyballs to a confined area relative to support beam 12. As shown in figure 1, the preferred embodiment of the present invention contains two volleyball support mechanisms designated by numerals 18 and 20. Stabilization mechanisms 18 and 20 serve to prevent the volleyballs from becoming tangled or wrapped around the apparatus upon impact. In the preferred embodiment, stabilization mechanisms 18 and 20 are comprised of circular frames extending in a uniform, planar direction that is substantially parallel to the plane of the playing surface. Stabilization mechanisms 18 and 20 may also serve as a

storage apparatus for excess cable or material extending to the suspended volleyballs.

In the preferred embodiment, stabilization mechanisms 18 and 20 are permanently attached to support beam 12. This is done so that the entire structure, aside from a base mechanism, is contained as a uniform structure. However, alternative embodiments of the present invention allow for stabilization mechanisms 18 and 20 to be reversibly attached to support beam 12 using attachment means 22 and 24. Attachment means 22 and 24 may be any form of simple attachment such as any standard nut and bolt apparatus, of a series of clamps or fastening means used to secure the position of stabilization mechanisms 18 and 20. Such attachment means allows for the removal and replacement of stabilization mechanisms 18 and 20 at virtually any position along support beam 12 so as to allow for the rearrangement of a plurality of such stabilization mechanisms along beam 12.

Said stabilization mechanism may be housed within covers 26 and 28 (not shown). Covers 26 and 28 snugly surround the form of the stabilization mechanisms and further aid in preventing entanglement of the volleyball upon impact, storing of access cable material, and

protection of attachment means. In the preferred embodiment covers 26 and 28 are comprised of a flexible material such as canvas. While beneficial, covers 26 and 28 are not essential to the practice of device 10.

The preferred embodiment of the present invention is further comprised of connecting means tubes 30 and 32, which extend in a substantially downward direction from stabilization mechanisms 18 and 20. Each connecting means tube is attached at its top end to support beam 12. As shown in figure 1, the bottom end of connecting means tube 30 and 32 each contain semi-circular crooks 34 and 36, to which connection means 38 and 40 are attached.

In another embodiment of the present invention, connection means tube 30 and 32 is a hollow tube that encloses and guides connecting means 38 and 40. In this embodiment, each connecting means tube is attached at its top end to each stabilization mechanism to serve as a stationary conduit for each connecting means. Each connecting means is attached at its distal end to each stabilization mechanism at the top end of each connection means tube.

Yet in another embodiment of the present invention, connection means tube 30 and 32 are not included.

Connection means 38 and 40 are simply attached, at their distal end, to each stabilization mechanism and, at their proximate end, to the dangling volleyballs.

Connection means 38 and 40 may take on several forms in successful embodiments of the present invention. In accordance with desired performance or reaction, connection means 38 and 40 may be some elastic, non-elastic, semi-rigid, or rigid material that serves to connect the dangling volleyballs and the apparatus of the present invention. However, in the preferred embodiment, each connection means is a semi-elastic material that allows volleyballs to track a true trajectory upon impact. This type of connection means allows the offensive player to observe the resultant ball path from the spike and further allows a defensive player to react to an accurate ball flight produced from the spike. This allows for practice under game-like conditions. Another benefit associated with such a connection means is the relatively fast time in which the ball returns to its resting position, allowing for a succession of repetitions to be quickly performed.

Each vertical support beam is attached to a corresponding support base. As shown in figure 1, vertical support beams 14 and 16 are attached, at their bottom end,

to support bases 50 and 52, respectively. In the preferred embodiment, each support base is comprised of a substantially planar support piece whereby the bottom end of each vertical support beam is attached to support piece top surface 56. Each support base is further comprised of support piece bottom surface 58. In the preferred embodiment a plurality of wheels mechanisms 60 are mounted to support piece bottom surface 58 so as to enable the apparatus of the present device to be mobile. Wheel mechanisms 60 may be any standard wheel and mount unit sufficient to withstand the weight of the apparatus.

The preferred embodiment also contains apparatus stabilization means 70. In the preferred embodiment, apparatus stabilization means 70 consists of a series of weights 72 secured by vertical support pin 74 extending upwards from support piece top surface 56. However, other apparatus stabilization means may consists of a plurality of suction devices attached to support piece bottom surface 58. Yet another embodiment may include an apparatus stabilization means consisting of a lock pin which forcibly rests against wheel mounts 60 so as to frictionally resist movement of the apparatus.